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(FILE 'HOME' ENTERED AT 19:24:02 ON 05 NOV 2008)

FILE 'REGISTRY' ENTERED AT 19:24:13 ON 05 NOV 2008 1 STRUCTURE UPLOADED

L1 STRUC L2 0 S L1

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FILE 'CAPLUS' ENTERED AT 19:27:10 ON 05 NOV 2008 L5 3 S L3

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G1 C, O, S, N

Structure attributes must be viewed using STN Express query preparation.

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L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:141023 CAPLUS

DOCUMENT NUMBER: 142:240424

TITLE: Preparation of (thiazolyl)cyclopentane amide

modulators of chemokine receptor activity
INVENTOR(S): Butora, Gabor; Yang, Lihu; Goble, Stephen D.

PATENT ASSIGNEE(S): Merck & Co., Inc., USA

SOURCE: Merck & Co., Inc., USA
PCT Int. Appl., 82 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

PATENT NO.					KIND DAT			ATE											
												WO 2004-US25467							
WO	2005014537																		
	W:										BG,								
											EC,								
		GE,	GH,	GM,	HR,	ΗU,	ID,	IL,	IN,	IS,	JP,	KΕ,	KG,	KΡ,	KR,	ΚZ,	LC,		
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		ΤJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW		
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		SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	ΝE,		
			TD,																
ΑU	2004	2635	09		A1		2005	0217	AU 2004-263509							20040806			
									CA 2004-2534294										
ΕP	1654256			A2 20060510															
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CN	1832	943			A		2006	0913		CN 2	004-	20040806							
JP	1832943 2007501795 2006DN00519				T 20070201					JP 2	006-	20040806							
IN	2006	DN00	519		A		2007	0810		IN 2	006-1	DN51	9		2				
US	2006	0205	783		A1		2006	0914								0060			
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R SC	DURCE	(S):			CAS	REAC	T 14	2:24	0424	: MA	RPAT	142	:240	424					

OTHER SOURCE(S): CASREACT 142:240424; MARPAT 142:240424

Page 2

AB Title compds. I [wherein Z = independently C or N, R1 = (alkoxy)alky1, alkylthioalky1, hydroxy, etc.; R2-R4, R6 = independently H, OR, alkyl, halo, etc.; R5 = (carbonyl)alky1, CF3, halo, etc.; R7, R9 = independently H, Ph, alkyl, etc.; R8 = H, Ph, alkyl, etc.; R10 = (un)substituted tetrahydropyranyl-4-ylamino, zazoylohept-1-yl, azacyclooct-1-yl, and pharmaceutically acceptable salts or solvates thereof and individual diastereomers thereof) are preped as chemokine receptor modulators (no data). For example, II was given in a multi-step synthesis starting from 2,6-dichloro-4-trifluoromethylpyridine. The invention is directed to pharmaceutical compons. comprising these compds. and the use of these compds. and compns. as chemokine receptor modulators in the prevention or treatment of the diseases in which chemokine receptors are involved, such as inflammatory and immunoregulatory disorders, and rheumatoid arthritis (no data).

T 844639-98-1P 844640-00-2P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of N-pyridinylmethyl (thiazolyl)cyclopentane amide modulators of chemokine receptor activity)

RN 844639-98-1 CAPLUS

CN Carbamic acid, [4-[3-(hexahydro-1(2H)-azocinyl)-1-[[[[5-(trifluoromethyl)-3-pyridinyl]methyl]malno[carbonyl]cyclopentyl]-2-thiazolyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 844640-00-2 CAPLUS

CN Cyclopentanecarboxamide, 1-(2-amino-4-thiazoly1)-3-(hexahydro-1(2H)-azociny1)-N-[[5-(trifluoromethy1)-3-pyridiny1]methy1]- (CA INDEX NAME)

IT 844639-96-9P 844639-97-0P 844639-99-2P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of N-pyridinylmethyl (thiazolyl)cyclopentane amide modulators
 of chemokine receptor activity)

RN 844639-96-9 CAPLUS

CN Cyclopentanecarboxamide, 1-[2-(acetylamino)-4-thiazolyl]-3-(hexahydro-1(2H)-azocinyl)-N-[[5-(trifluoromethyl)-3-pyridinyl]methyl]- (CA INDEX NAME)

- RN 844639-97-0 CAPLUS
- CN Carbamic acid, [4-[3-(hexahydro-lH-azepin-l-yl)-l-[[[[5-(trifluoromethyl)-3-pyridiny]]methyl]amino]carbonyl]cyclopentyl]-2-thiazolyl]-, 1,1-dimethylethyl ester (9C1) (CA INDEX NAME)

- RN 844639-99-2 CAPLUS
- CN Cyclopentanecarboxamide, 1-(2-amino-4-thiazoly1)-3-(hexahydro-1H-azepin-1-y1)-N-[[5-(trifluoromethy1)-3-pyridiny1]methy1]- (CA INDEX NAME)

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:99600 CAPLUS

DOCUMENT NUMBER: 142:198060

TITLE: Preparation of 7 and 8 membered heterocyclic

cyclopentyl benzylamide derivatives as modulators of chemokine receptor activity

INVENTOR(S): Ge, Min; Goble, Stephen D.; Pasternak, Alexander;

Yang, Lihu
PATENT ASSIGNEE(S): Merck & Co., Inc., USA

SOURCE: PCT Int. Appl., 58 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	NO.				DATE				ICAT							
WO 2005	010154	A2		20050203 20050825		WO 2004-US21996										
W:	AE, AG, CN, CO, GE, GH, LK, LR,	CR, GM,	CU, HR,	CZ, HU,	DE,	DK,	DM, IN,	DZ,	EC, JP,	EE, KE,	EG, KG,	ES, KP,	FI, KR,	GB, KZ,	GD, LC,	
RW:	NO, NZ, TJ, TM, BW, GH,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW	
	AZ, BY, EE, ES, SI, SK,	KG, FI,	KZ, FR,	MD, GB,	RU, GR,	TJ, HU,	TM, IE,	AT,	BE, LU,	BG, MC,	CH, NL,	CY, PL,	CZ, PT,	DE, RO,	DK, SE,	
	SN, TD,	TG														
	AU 2004259416						AU 2004-259416 CA 2004-2532102									
	CA 2532102 EP 1646392					A1 20050203 A2 20060419										
	CN 1871012						CN 2004-80020467									
JP 2007	T 20070823			JP 2006-520232						20040709						
IN 2005			2008				2005-1					0051				
US 2006	A1		2006	0817			2006-					0060				
PRIORITY APP							2003- 2004-1					0030 0040				

OTHER SOURCE(S): CASREACT 142:198060; MARPAT 142:198060

GI

AB N-benzylheterocyclylcyclopentanecarboxamide derivs. of the formula (I) and pharmaceutically acceptable salts thereof and individual diastereomers thereof [X = O, N, S, SO2, C; R1 = H, C1-6 alkyl, -C0-6alkyl-O-C1-6alkyl, -C0-6 alkyl-S-C1-6-alkyl, - (C0-6-alkyl) (C3-7cycloalkyl) (C0-6alkyl), HO, heterocyclyl, cyano, etc.; R2, R4, R6 = H, each (un)substituted C1-3 alkyl or -O-C1-3alkvl, HO, C1, F, Br, Ph; R3 = H, HO, halo, each (un)substituted C1-3 alkyl or NH2, etc.; R5 = each (un)substituted C1-6 alkyl, -O-C1-6alkyl, -CO-C1-6alkyl, -S-C1-6alkyl, or 1-pyridyl, F, Cl, Br, (un) substituted -C4-6 cycloalkyl, etc.; R7 = H, (C0-6-alkyl) phenyl, (C0-6alkyl)heterocycle, (C0-6-alkyl)-C3-7cycloalkyl, etc.; R8 = H, nothing (when X is either O, S, SO2, or N or when a double bond joins the carbons to which R7 and R10 are attached), HO, C1-6 alkyl, C1-6-alkylhydroxy, -O-C1-3alkvl, (un)substituted CONH2, cvano; or where R7 and R8 may be joined together to form a ring such as 1H-indene, 2,3-dihydro-1H-indene, etc.; or R7 and R9 or R8 and R10 may be joined together to form an (un) substituted Ph or heterocycle ring; R9, R10 = H, HO, hydroxy, C1-6 alkyl, C1-6 alkylhydroxy, -O-C1-3alkyl, oxo (when R9 or R10 is connected to the ring via a double bond), halo, etc.; R16 = H, Ph, (un)substituted C1-6alkyl; the dashed line represents a single or a double bond] are prepared These compds, are useful as modulators of chemokine receptor, in particular chemokine receptor CCR-2, for treating, ameliorating, controlling or reducing the risk of an inflammatory and immunoregulatory disorder or disease, in particular rheumatoid arthritis. Thus, reductive amination of 1-[2-[N-(tert-butoxycarbonyl)amino]thiazol-4-yl]-3oxocyclopentane-1-carboxylic acid Et ester by hexamethyleneimine and NaBH(OAc)2 in THF followed by alkali hydrolysis and acidification with AcOH gave 3-(Azepan-1-yl)-1-[2-[N-(tert-butoxycarbonyl)amino]thiazol-4yl]cyclopentane-1-carboxylic acid which underwent amidation with 3-fluoro-5-(trifluoromethyl)benzylamine using 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride in the presence of 4-Dimethylaminopyridine and diisopropylethylamine in CH2C12,

followed by N-deprotection with CF3GO2H and N-acetylation with acetic anhydride to give N-[3-fluoro-5-(trifluoromethyl)benzyl]-3-(azepan-1-yl)-1-[2-(acetylamino)thiazol-4-yl]cyclopentane-1-carboxamide (II)

835916-80-8P 835916-81-9P 835916-82-0P RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of N-benzylheterocyclylcyclopentanecarboxamide derivs. as modulators of chemokine receptor for treating, ameliorating, controlling, or reducing risk of inflammatory and immunoregulatory disorder or disease)

RN 835916-80-8 CAPLUS CN Carbamic acid, [4-1

Carbamic acid, [4-[1-[[[3-fluoro-5-(trifluoromethyl)]phenyl|methyl|amino|carbonyl|-3-(hexahydro-1H-azepin-1yl)cyclopentyl]-2-thiazolyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 835916-81-9 CAPLUS

CN Cyclopentanecarboxamide, 1-(2-amino-4-thiazoly1)-N-[[3-fluoro-5-(trifluoromethy1)pheny1]methy1]-3-(hexahydro-1H-azepin-1-y1)- (CA INDEX NAME)

RN 835916-82-0 CAPLUS

CN Cyclopentanecarboxamide, 1-[2-(acetylamino)-4-thiazolyl]-N-[[3-fluoro-5-(trifluoromethyl)phenyl]methyl]-3-(hexahydro-1H-azepin-1-yl)- (CA INDEX

NAME)

690654-35-4P, N-[3,5-Bis(trifluoromethyl)benzyl]-3-(1-azepan-1-yl)-1-[2-(acetylamino)thiazol-4-v1]cyclopentane-1-carboxamide 835916-83-1P, N-[3-Fluoro-5-(trifluoromethyl)benzyl]-3-(1azacyclooctan-1-y1)-1-[2-[(tert-butoxycarbony1)amino]thiazol-4yl]cyclopentane-1-carboxamide 835916-84-2P, N-[3-Fluoro-5-(trifluoromethyl)benzyl]-3-(1-azacyclooctan-1-yl)-1-(2aminothiazol-4-v1)cvclopentane-1-carboxamide 835916-85-3P, N-[3,5-Bis(trifluoromethv1)benzv1]-3-(1-azacvclooctan-1-v1)-1-(2aminothiazol-4-yl)cyclopentane-1-carboxamide 835916-86-4P, N-[3-Fluoro-5-(trifluoromethyl)benzyl]-3-(1-azacyclooctan-1-yl)-1-[2-(acetylamino)thiazol-4-yl]cyclopentane-1-carboxamide 835916-87-5P , N-[3,5-Bis(trifluoromethyl)benzyl]-3-(1-azacyclooctan-1-yl)-1-[2-(acetylamino)thiazol-4-yl]cyclopentane-1-carboxamide 835916-88-6P , N-[3,5-Bis(trifluoromethyl)benzyl]-3-(1-azacyclooctan-1-yl)-1-[2-(pivaloylamino)thiazol-4-yl]cyclopentane-1-carboxamide RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of N-benzylheterocyclylcyclopentanecarboxamide derivs. as modulators of chemokine receptor for treating, ameliorating, controlling, or reducing risk of inflammatory and immunoregulatory disorder or disease)

RN 690654-35-4 CAPLUS

CN Cyclopentanecarboxamide, 1-[2-(acetylamino)-4-thiazolyl]-N-[[3,5-bis(trifluoromethyl)phenyl]methyl]-3-(hexahydro-1H-azepin-1-yl)- (CA INDEX NAME)

RN 835916-83-1 CAPLUS

CN Carbamic acid, [4-[1-[[[3-fluoro-5-(trifluoromethyl)phenyl]methyl]amino]carbonyl]-3-(hexahydro-1(2H)azocinyl)cyclopentyl]-2-thiazolyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 835916-84-2 CAPLUS

CN Cyclopentanecarboxamide, 1-(2-amino-4-thiazoly1)-N-[[3-fluoro-5-(trifluoromethy1)pheny1]methy1]-3-(hexahydro-1(2H)-azociny1)- (CA INDEX NAME)

- RN 835916-85-3 CAPLUS
- CN Cyclopentanecarboxamide, 1-(2-amino-4-thiazoly1)-N-[[3,5-bis(trifluoromethy1)phenyl]methyl]-3-(hexahydro-1(2H)-azocinyl)- (CA INDEX NAME)

- RN 835916-86-4 CAPLUS
- CN Cyclopentanecarboxamide, 1-[2-(acetylamino)-4-thiazolyl)-N-[[3-fluoro-5-(trifluoromethyl)phenyl]methyl]-3-(hexahydro-1(2H)-azocinyl)- (CA INDEX NAME)

- RN 835916-87-5 CAPLUS
- CN Cyclopentanecarboxamide, 1-[2-(acetylamino)-4-thiazolyl]-N-[[3,5-bis(trifluoromethyl)phenyl]methyl]-3-(hexahydro-1(2H)-azocinyl)- (CA INDEX NAME)

- RN 835916-88-6 CAPLUS
- CN Cyclopentanecarboxamide, N=[[3,5-bis(trifluoromethyl)phenyl]methyl]-1=[2-[(2,2-dimethyl-1-oxopropyl)amino]-4-thiazolyl]-3-(hexahydro-1(2H)azocinyl)- (CA INDEX NAME)

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:412749 CAPLUS

DOCUMENT NUMBER: 140:423705

TITLE: A preparation of piperidinylcyclopentyl amide derivatives, useful as modulators of chemokine

receptor activity

INVENTOR(S): Zhou, Changyou; Pasternak, Alexander; Yang, Lihu

PATENT ASSIGNEE(S): Merck & Co., Inc., USA SOURCE: PCT Int. Appl., 100 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

PA:	TENT :	NO.	KIND DATE					LICAT		DATE								
	WO 2004041163 WO 2004041163												20031024					
	W:	CO, GH, LS,	CR, GM, LT,	CU, HR, LU,	CZ, HU, LV,	DE, ID, MA,	DK, IL, MD,	DM, IN, MG,	DZ, IS, MK,	EC JP MN	, BG, , EE, , KE, , MW,	EG, KG, MX,	ES, KR, MZ,	FI, KZ, NI,	GB, LC, NO,	GD, LK, NZ,	GE, LR, OM,	
	RW:	TR, GH, KG, FI,	TT, GM, KZ, FR,	TZ, KE, MD, GB,	UA, LS, RU, GR,	UG, MW, TJ, HU,	US, MZ, TM, IE,	UZ, SD, AT, IT,	VC, SL, BE, LU,	VN SZ BG MC	SG, YU, TZ, CH,	ZA, UG, CY, PT,	ZM, ZM, CZ, RO,	ZW, ZW, DE, SE,	AM, DK, SI,	AZ, EE, SK,	BY, ES, TR,	
AU	CA 2503713 AU 2003284188					A1 20040607			CA 2003-2503713 AU 2003-284188 EP 2003-776578						20031024 20031024			
	R:	AT, IE,	BE, SI,	CH, LT,	DE, LV,	DK, FI,	ES, RO,	FR, MK,	GB, CY,	GR AL	, IT,	LI, BG,	LU, CZ,	NL, EE,	SE, HU,	MC, SK	PT,	
US	JP 2006507301 US 20060173013 PRIORITY APPLN. INFO.:									JP 2004-550142 US 2006-533337 US 2002-422381P WO 2003-US34099					20060330 P 20021030			
OTHER SO	OTHER SOURCE(S):						140:	42370							_			

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<sup>\*</sup> STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to piperidinylcyclopentyl amide derivs. of formula I [wherein: X is -0-, -cH2-0, -cO2-0, or -OC(0)-, etc., W is (un) substituted Ph or heterocycle; Z is C, N, or O, wherein when Z is N, then R4 is absent, and when W is O, then both R3 and R4 are absent; n = 0-4; R1 is H, halo, trifluoromethyl, OH, alkyl, or CN, etc.; R2 is (un) substituted C0-6alkyl-(phenyl, Heterocycle); R3 is (un) substituted C0-6alkyl-phenyl; R4 is H, OH, CN, or alkyl, etc.; R5 and R6 are independently selected from H, OH, alkyl, alkoxy, or oxo, etc.; R3 and R5 or R4 and R6 may be joined together to form (un) substituted ringl, useful as modulators of chemokine receptor activity. In particular, these compds. are useful as modulators of the chemokine receptor CCR-2. For instance, piperidinylcyclopentyl

amide derivative II (CCR-2 receptor binding IC50 <  $1\mu M)$  was prepared via amination of the obtained intermediate cyclopentanone derivative III by 4-(4-fluorophenyl)piperidine with a yield of 66% (example 1). 690654-35-4P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of piperidinylcyclopentyl amide derivs., useful as modulators of chemokine receptor activity)

RN 690654-35-4 CAPLUS

CN Cyclopentanecarboxamide, 1-[2-(acetylamino)-4-thiazolyl]-N-[[3,5-bis(trifluoromethyl)phenyl]methyl]-3-(hexahydro-1H-azepin-1-yl)- (CA INDEX NAME)